

CASE STUDY: EIKO AG



- Website Summary -

This website was developed by Swiss web developer Greg Lemmenmeier ([Website](#) | [CV](#)). Work done was:

Site with total **96 browser pages, hand-coded HTML5 / CSS3 / jQuery**, W3C valid, bi-lingual, custom CMS, Programming (PHP5/ JS/jQuery), **custom CMS and Administration System development**, search engine, sitemap, Google Maps app, website design, printout design, editorial corrections, content conversion, SEO, speed optimization, client consulting, project documentation, host / domain transfer, website installation.

This site was made with [PHP 5](#), [MySQL 5](#), [HTML5](#) ("valid website"), [CSS 3](#), [jQuery](#) and [Google Maps API](#).

Database Development

For this website, I programmed and filled a MySQL 5 database that can hold all bi-lingual webpages (DE/EN), reference properties, map coordinates, staff bios, website-wide settings, admin action logs, and access logs.

Pixel-precise Layouting

The website's layout was **perfectly aligned** horizontally and vertically, and tested in all mainstream browsers. You can see, for example, how I formatted the menu to be the same width as the logo. Special PHP functions were programmed for the CMS: e.g. retrieve 4 photos from the database, but the 4th without right margin.

The screenshot displays the EIKO real estate website interface. At the top left is the EIKO logo. The main header area features a large image of a modern building and the text "Real Estate: Financing, Managing, Consulting." Below this is a navigation bar with "HOME", "BELL & TATUM MEDICAL BUILDING, PHOENIX, AZ", "DE EN", "SITEMAP", and "SEARCH". A sidebar on the left contains "SERVICES", "REFERENCES" (with flags for CH, DE, USA), "LINKS", and "CONTACT". The main content area shows a grid of four photos, followed by a table of property details:

Building:	2-story medical office building - multi tenant
Building Size:	31,887 sq.ft. (2,962 m2)
Lot Size:	2,998 acres (12,132 m2)
Location:	Phoenix, AZ
Tenant:	Medical doctors and health services
Parking:	Asphalt parking lot
Completion:	July 1989

Below the table is a map of Phoenix, AZ, with various landmarks and neighborhoods labeled. At the bottom of the page, there is a footer with copyright information: "© Copyright 2011 EIKO Immobilien AG | info@eiko.ch +41 (0)41 729 4343 | Valid HTML5".

Website Logo

As is often the case, a company logo cannot be directly used for a website. In this case, I decided to optimize it a little (to improve the bad **Kerning**) and add subtle **highlights** to make it look elegant to real estate investors (the target audience of this website).

I chose a dark blue background. This color has been used for centuries in the sector of high yield investments.

Attractive Interface Ideas

To make this website both **unique** and **attractive**, I thought of several ideas:

- I found a great photo for start page
- Active menu shows the firm's icon
- Language switch is very compact
- "REFERENCES" menu acts "smart"
- "SEARCH" function is very compact
- Auto-zooming (for images + forms)
- Drop shadows (but not too much)
- 3D animated logo in Admin System

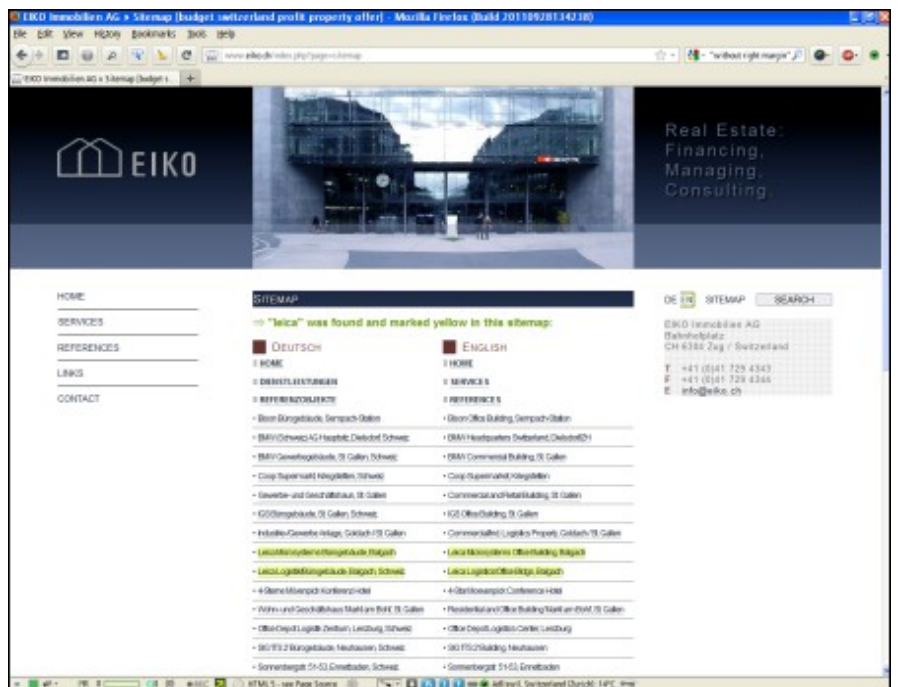
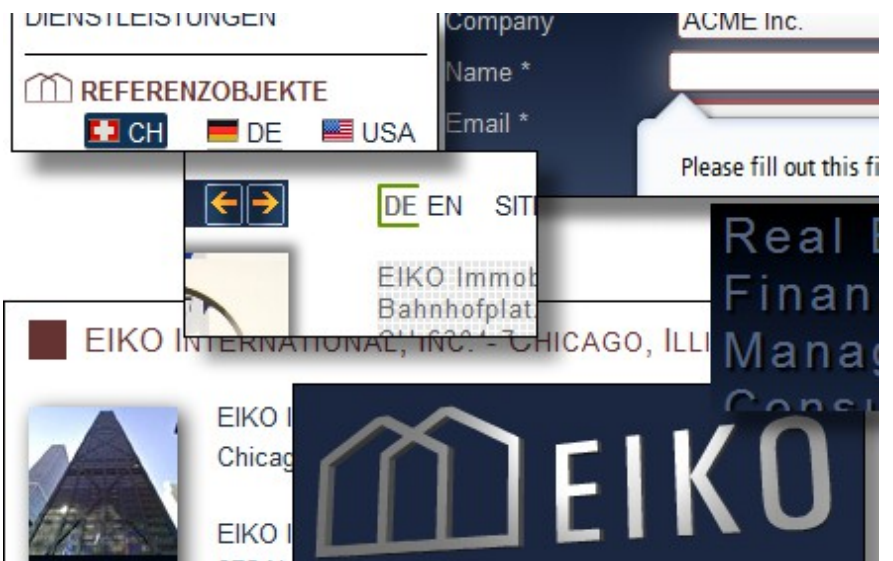
Nowadays, web users prefer layouts that are totally **clear** and contain no clutter – a.k.a. "Reduce to the Max".

Sitemap + Search Engine

An integrated sitemap **is useful** for the visitors, and helps in SEO to get a new site deeper indexed by the Googlebots. This sitemap **auto-updates** whenever the administrators add (or change) a webpage, reference property, or bio.

For cross-checking, I programmed this in a **super compact form**, so German and English versions are **in parallel**. As a smart solution, I **integrated the search engine** right into the sitemap! Searching is site-wide i.e. in **all** pages. This sitemap was tough to program.

Links that have not yet been visited are shown with a subtle underline - while **visited links** have no such underlines.



Design of usable Printouts

On most other websites. . . when you print out a page from your browser, the printed page on paper is often not usable. In a professionally developed website, this must be solved better.

For this site, I designed the **printout styles** so that every printed page:

- does not show any menu/nav. items
- shows a special logo (on white bkg.)
- shows the domain at the end, in red
- gets printed in a large enough font

Better than the normal method, I did not use ".css" files (or even a separate "print-style.css" which is not needed), but I programmed a **PHP script** that generates one CSS file incl. all "print styles". This CSS file includes updated info taken from the MySQL database

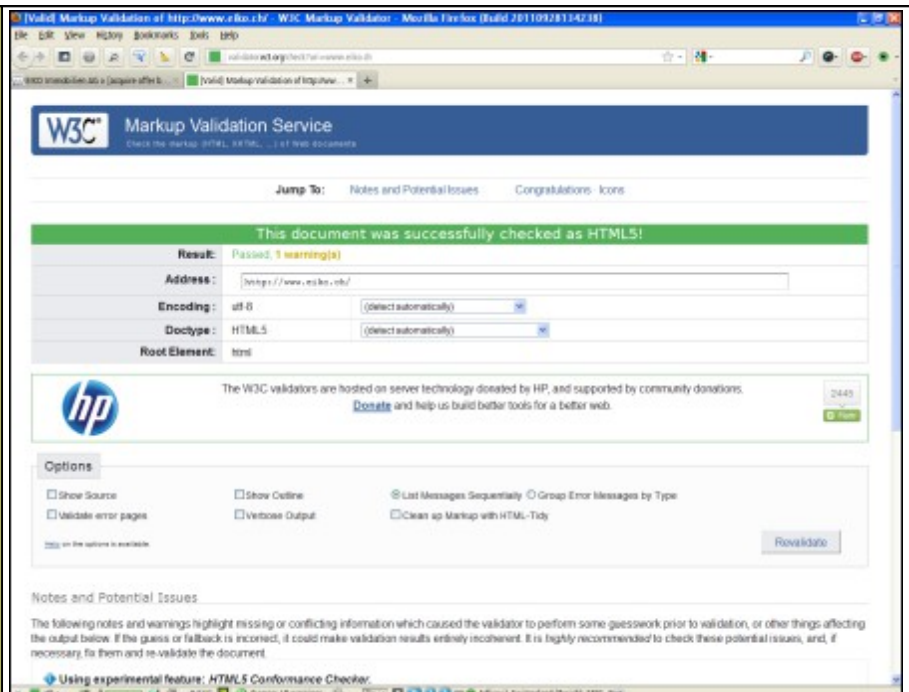


HTML5, perfectly coded

I made this site in the **new and much improved HTML5** markup language, not in the old XHTML or even HTML4 as can still be seen in other websites.

The Website **"is valid"** which means it validates in the official W3C validator. Validity of a website brings **several advantages** e.g. it looks the same in **different browsers**, it loads **faster** (as the browser doesn't have to correct errors while loading it), and it's **good for SEO** (search engine optimization).

Coding a site in the "HTML5" format **and make it perfect** ("valid") will often require more work, but most websites in the future will be made with HTML5.



Other components developed:

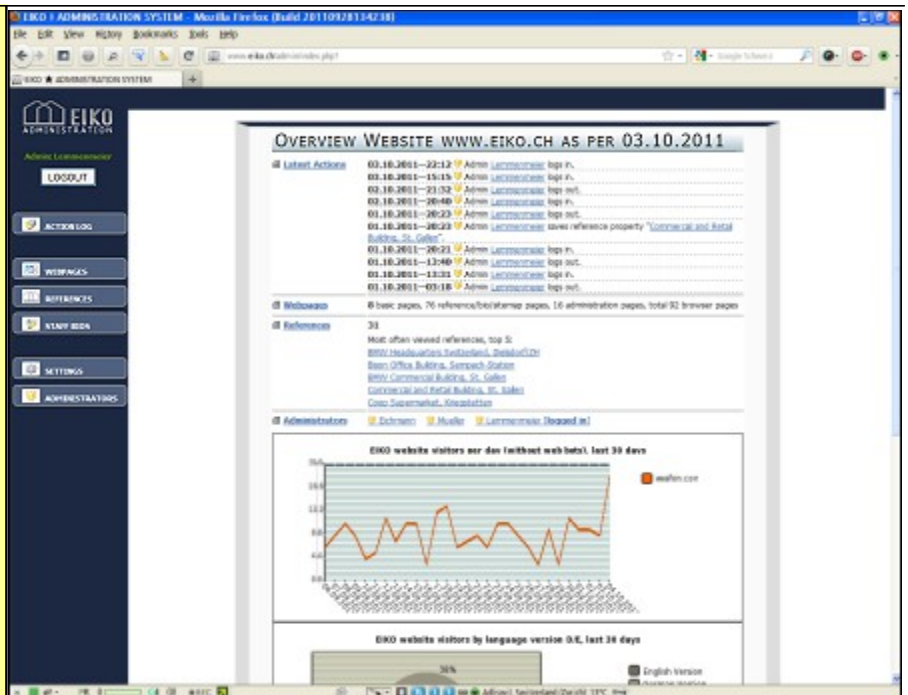
- ".htaccess" file with a "301 redirect" to **prevent Google's "double content penalty"** if "www." and "http:///" ".htaccess" file: Also blocks out hacker stuff e.g. bad bots, libwww-perl, base64 strings, script strings etc.
- "robots.txt" file. Special solutions: **Do not index the "Links" page** (bad for SEO). All JS and CSS are excluded.
- "sitemap.xml" file, Wrote Google Site Map with **48 links**, new format. Smart solution: **sitemap.php on top !**
- "favicon.ico". Bookmark icon for users. It wasn't easy to get the logo and name into the tiny 16x16 format.

The Administration System

For this site, I **custom-developed** and tailored an **easy-to-use** system for the client's website administrators. With this system, they can edit the website and also monitor its performance.

After an Admin logs in, he first sees an **automatically updated overview page:**

- Log of the 10 latest admin actions
- Statistics (total pages, refs, bios etc.)
- "Top 5" references viewed by visitors
- List of currently active administrators
- **Chart of unique visitors** (last 30 d.)
- **Chart of selected language** (DE/ EN)
- Info on how to use the Admin System
- Info on webhost (and contact person)
- Info on technologies used (with links)
- Info on who developed this site (CV)
- Useful links, e.g. to see all backlinks



- **Compact and self-explanatory** system
- 15 different Administrator pages
- System designed similar to website
- Written in English (Admin in USA)
- **All necessary functions to edit site**
- **English and German on same page**

- **Very clear add/edit/delete actions**
- **Confirmations** before any deletions
- **Logs with precise texts** (who + what)

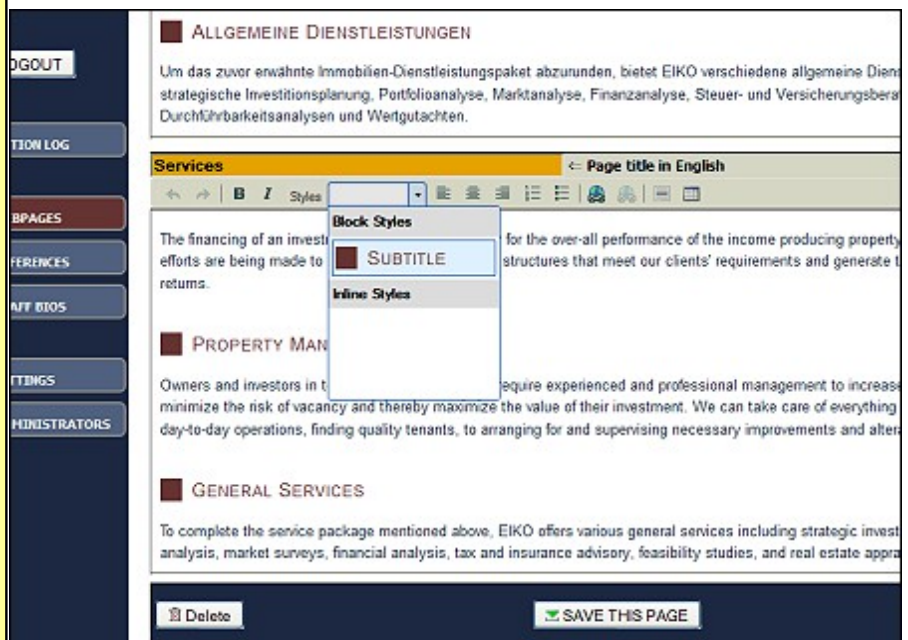
- **Webpage editor** = custom adapted
- Admin previews in **true-WYSIWYG**
- No pointless formats (e.g. underline)
- Editor uses same styles as website

- Made for client = no cryptic language
- IP addresses stored, links to WHOIS
- Clear user feedback (anim. "loader")
- Icons + buttons are custom designed
- Menu at the left is static (via CSS3)
- Table row highlighting on mouseover

- **Special edit:** 'Staff Bios' (initials = link)
- Special upload of photos: 'References'
- Special editing: 'References' (country)
- Special editing: **Map locations (pins)**

- All website settings can be edited
- Editor for SEO tags, keywords (D/E)
- Including links to Search Eng. Trends

- **Admin accounts** (add/edit/delete)
- Assistants cannot access other acct.
- Notification (auto-emails) for changes
- Shows last login, real name and email

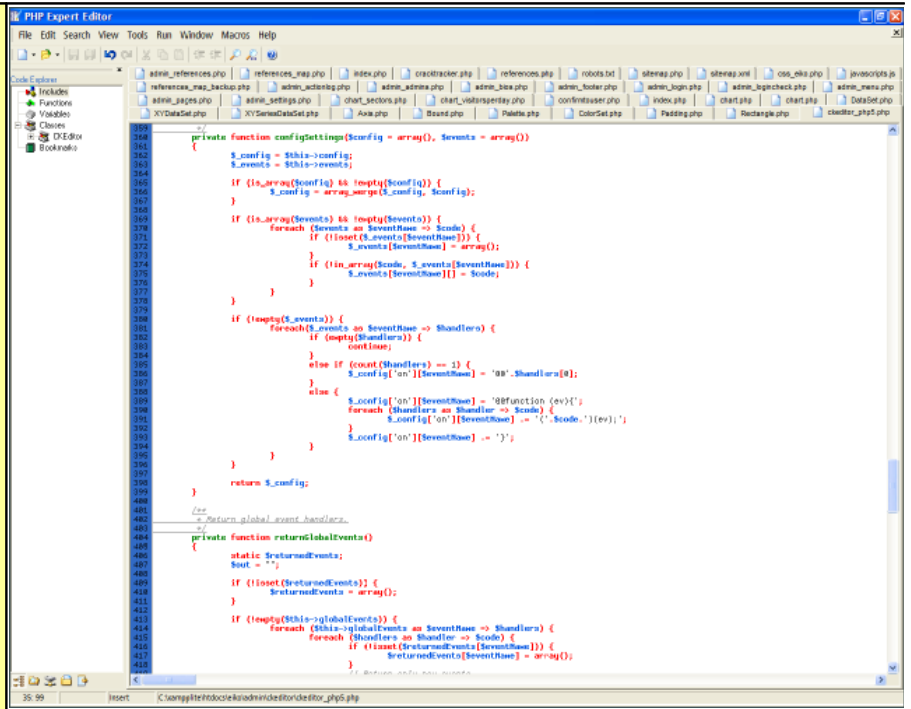


Programming Clarity

It's important – but usually not done by most web developers – that websites are programmed by writing **clear and well-organized programming code**. If in the future other programmers have to make functional / structural changes, they'll be lost if the code is "messy" or too complex: This is also a **cost factor** for clients – which is often overlooked.

I programmed this site in a clear way:

- All functions have written **comments**
- **Variables** are **clearly** named, not "\$a"
- **Secure** code (sanitizing all inputs etc.)
- **Short** folder hierarchy (not ./.././../)
- If clearer and faster: object-oriented
- In all other cases: procedural coding



```
private function configSettings($config = array(), $events = array())
{
    $s_config = $this->config;
    $s_events = $this->events;

    if (is_array($config) && !empty($config)) {
        $s_config = array_merge($s_config, $config);
    }

    if (is_array($events) && !empty($events)) {
        foreach ($events as $eventname => $code) {
            if (!isset($s_events[$eventname])) {
                if (!in_array($code, $s_events[$eventname])) {
                    $s_events[$eventname] = $code;
                }
            }
        }
    }

    if (!empty($s_events)) {
        foreach ($s_events as $eventname => $handlers) {
            if (!empty($handlers)) {
                continue;
            }
            else if (count($handlers) == 2) {
                $s_config['on'][$eventname] = '00'. $handlers[0];
            }
            else {
                $s_config['on'][$eventname] = '0function (ev){';
                foreach ($handlers as $handler => $code) {
                    $s_config['on'][$eventname] .= '('. $code . ')(ev)';
                }
                $s_config['on'][$eventname] .= '};';
            }
        }
    }

    return $s_config;
}

// Return global event handlers
private function returnGlobalEvents()
{
    static $returnedEvents;
    $ret = '';

    if (!isset($returnedEvents)) {
        $returnedEvents = array();

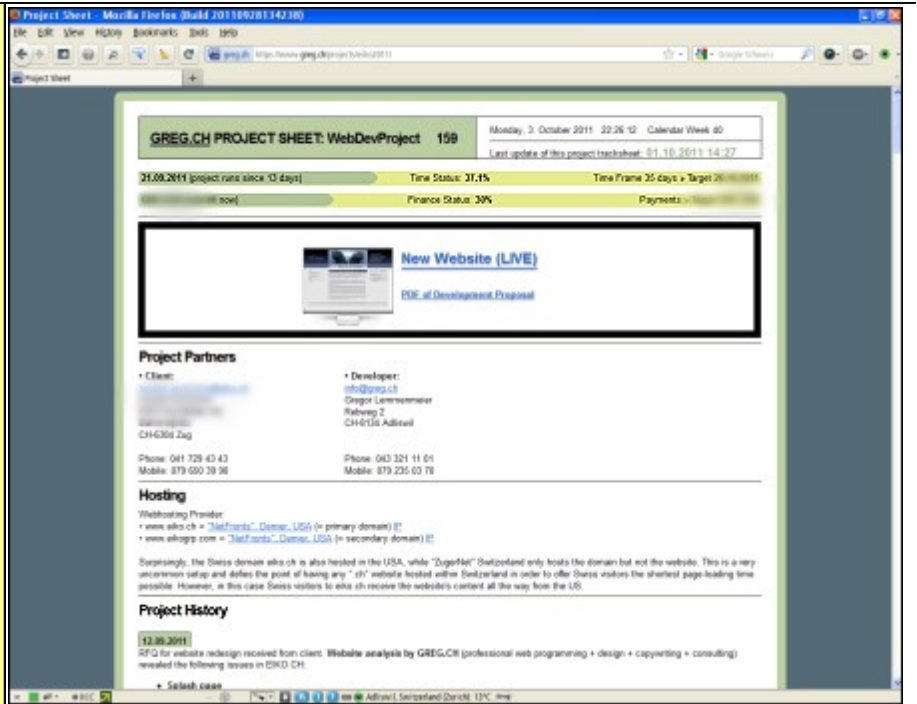
        if (!empty($this->globalEvents)) {
            foreach ($this->globalEvents as $eventname => $handlers) {
                foreach ($handlers as $handler => $code) {
                    if (!isset($returnedEvents[$eventname])) {
                        $returnedEvents[$eventname] = array();
                    }
                }
            }
        }
    }
}
```

Project Documentation

It's important – but usually not done by most web developers – that websites are **clearly documented for the client**.

I documented this site in a clear way:

- Online prototype (client "follows live")
- PW-protected **Project Tracksheet**
- Get an email when client accesses it
- **Autom. charts** (time %, and paid %)
- Give client all he needs for a review
- Notes of all new client requirements
- Notes of all agreed project changes
- **Chronological structure**, with dates
- Screenshots of new layout solutions
- Include all important **contact data**
- Include infos on **webhosting account**
- Include **infos, tips, and give reasons**



SEO - The Challenge

No search engine optimization was previously done for the client's domain and the domain was very poorly indexed by Google. This called for a lot of work and **latest OnPage-SEO methods** to improve Google Rankings. Example A: The **<title>**, **<h1>** and **<h2>** headings must all contain the main keyword "Immobilien", and they do. Example B: The first link that the Googlebots will follow is the internal **sitemap.php** page, for deeper indexing. The success of these will be slow – as always in SEO. It usually takes weeks till desired effects are noticeable.

In Google Webmaster Tools, I submitted/verified the **XML sitemap**. I **removed all old links** from Google. To be notified if the website is down (if ever), I registered an auto-notification at **www.changedetection.com**. I also advised the client on registering Facebook (group) and Twitter accounts for business, and how to use **www.checkname.com** before registering any such accounts – **links from social networks help** the SEO a lot. I also advised the client to notify some of his business partners by asking them to **place links to his website**.

Finally, I placed a link to the client's site from my own (which has Google PageRank **6** so the link is powerful).

Client Satisfaction

The written testimonial that I received from the client (CEO) says: "[Absolutely perfect work! We are excited.](#)"

This case study was written by
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Client project # 159

